

Abhay Cashikar

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Education

Georgia Institute of Technology, Atlanta, Georgia B.S. in Computer Science, System Architecture and Devices Threads Minor in Japanese	<i>August 2018 – May 2022 (expected)</i> Current Overall GPA: 4.00
Ladue Horton Watkins High School, Saint Louis, Missouri National Merit Finalist, National AP Scholar OCA Asian Pacific American Advocates Youth Leadership Award Rank of Eagle Scout	<i>May 2018</i> Overall GPA: 4.00

Experience

Software Engineering Intern, Microsoft • Developing a tool to diagnose connectivity issues between virtual machines hosted on an Azure Stack • Scans Azure Stack file dumps for a misconfigured firewall rule causing connectivity issues • Tool will reduce or eliminate all calls to Microsoft regarding issues stemming from misconfiguration of firewall • Working in tandem with an intern in Delhi, India	<i>May 2020 – present</i>
Peer Tutor, Georgia Tech Athletics Association • Tutored five student-athletes for an hour every week on linear algebra and multivariable calculus • Took a course to become a better tutor, and received the CRLA Level 2 certification	<i>January 2020 – May 2020</i>
Embedded Systems Master Peer Instructor, The Hive Interdisciplinary Makerspace • Help provide a hands-on learning environment to 2500 students a month for classwork and personal projects • Have written and contributed to Standard Operating Procedures detailing equipment usage and safety • Training over 30 Peer Instructors on proper setup and usage of microcontrollers such as the Arduino Uno • Holding office hours and am the main point of contact for all questions and projects related to microcontrollers	<i>September 2018 – present</i>
Test Automation Engineer, Centene Corporation • Wrote and modified over 100 C# scripts using Ranorex Studio to test call center web database application • Used Git and Bitbucket for source control to work alongside other test automation team members • Attended weekly Scrum meetings and worked in an Agile environment full-time	<i>May 2019 – August 2019</i>
Research Intern, Washington University in Saint Louis • Retrofitted a robot cart with a PM sensor; developed manual sampling, autonomous sampling, and autonomous source finding programs using Arduino Nanos and a Bluetooth module connected to an Android device • Used MATLAB to plot collected spatiotemporal data in a contour plot showing accurate ventilation of PM • Published paper as first author in Journal of Environmental Engineering, Volume 145, Issue 10 entitled “Particulate Matter Sensors Mounted on a Robot for Environmental Aerosol Measurements”	<i>May 2017 – February 2019</i>
Peer Notetaker, Office of Disability Services • Take detailed notes in classes for students who have trouble taking notes while listening to professors lecture	<i>September 2018 – May 2019</i>

Publications

Cashikar, A., Li, J., & Biswas, P. (2019). Particulate Matter Sensors Mounted on a Robot for Environmental Aerosol Measurements. Journal of Environmental Engineering, 145(10), 04019057

Projects

Microsoft Deep Drive Computer Science Workshop, Microsoft • Organizing a 10-week virtual coding workshop with other interns for students from low-income communities • Will introduce students to data structures and algorithms, as well as teach soft skills	<i>June 2020 – present</i>
60% Mechanical Keyboard • 3D printed and assembled frame; soldered switches, diodes, and wires to a Teensy microcontroller • Programmed keyboard in C using QMK Toolbox framework	<i>January 2020 – March 2020</i>
Telemetry Subteam, GT Solar Racing • Writing code in C to collect data from systems on the solar car and send it to an online server over LTE and RF • Writing code in Golang to listen for data server-side and plot the data on graphs and maps in real-time	<i>August 2019 – present</i>
Slack Bot for Analytics Tracking and Response, The Hive Interdisciplinary Makerspace • Working on a Slack bot to manage shift swapping, makeups, part loans, and more for 100+ student volunteers • Started on Node.js, but after some discussion shifted to Golang because of better support	<i>August 2019 – present</i>

IoT Device with Microsoft Azure

July 2019 – present

- Tinkering with an MXChip IoT DevKit
- Set up an IoT Hub using Microsoft Azure, and sent data to it from an MXChip IoT DevKit via VS Code

Cleanify Web Application

April 2019 – present

- Duplicates an existing Spotify playlist and removes all the songs marked explicit
- Built on Python and the Spotify API, considering moving to JS for easy integration with an HTML front-end

Strategy Algorithm Programmer, GT Solar Racing

March 2019 – May 2019

- Worked on a simulation to generate driving speed suggestions based on cloud cover models using Python
- Simulation will be used to increase efficiency of the solar car at the American Solar Challenge (ASC)

Good Deed Mobile Application

October 2018

- Created an application at HackGT to help users find volunteer opportunities in their community
- Used React Native to develop an infinite scrolling screen with social posts from volunteer organizations
- Utilized the NCR Site API to store and retrieve information about volunteering events and organizations

KanaGuess Android Application

December 2018

- Mobile application for Japanese character pronunciation recognition
- Developed Android application for Japanese learners using Android Studio and Java
- Allows users to select character groups to study, and provides feedback on incorrectly identified characters

Skills

Computer Science: Object-oriented programming, embedded systems, version control, Agile development environment, data structures, algorithms, REST APIs and HTTP requests

Programming Languages: Java, C, C#, Python, Golang, Bash (command line/terminal), Node.js, React Native

Software: Git, GitHub, Visual Studio, IntelliJ, VS Code, Android Studio, Postman, Microsoft Azure, Ranorex Studio, Windows, macOS, Linux, MATLAB, Autodesk Inventor, Slack, Microsoft Office, Microsoft Teams, Adobe Illustrator

Instrumentation: Arduino, Teensy, Raspberry Pi, Tiva-C, Bluetooth module, particulate matter sensor, MXChip IoT DevKit, soldering iron, 3D printer, oscilloscope, waveform generator, power supply, multimeter

Spoken Languages: English (native), Kannada (native), Japanese (intermediate), Spanish (formerly studied)

Music: Classical and modern piano (15+ years of study and self-study)

Clubs: The Hive, GT Solar Racing, Institute of Electrical and Electronics Engineers, PianoForte, Starter Bikes, Robojackets

Leadership

Resident Advisor, Georgia Tech Department of Residence Life

August 2019 – present

- Responsible for 50+ residents' safety, engagement, and success in the Georgia Tech community
- Trained on responding to various situations from roommate conflicts to mental health issues to sexual assault
- Organize weekly events to engage residents and promote a diverse and inclusive community

Vice President, PianoForte Student Pianist Organization

April 2019 – May 2020

- Worked to bring more pianos to Georgia Tech's campus and its residents
- Had talks with Dept. of Housing to place high-quality electric keyboards in each of the 49 GT residence halls
- Collaborated with university departments and student organizations to plan and execute recitals and concerts

Auxiliary Array Development Co-Leader, GT Solar Racing

August 2018 – May 2019

- Developed a deployable solar array to charge the solar car when it is parked
- Array consists of eight sections each containing a 4x4 grid of solar cells, for a total of 128 cells

Co-Captain and Mechanical Lead, FIRST Robotics Team 4330

August 2016 – May 2018

- Designed, prototyped, and built robot mechanisms, and delegated work to fellow team members
- Instructed new members on the engineering design process and proper equipment usage